

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (original): A method of communicating blocks of information  
2 in a wireless sectorized frequency division multiplexing  
3 communications cell including a base station, a first sector and a  
4 second sector, the second sector being located adjacent said first  
5 sector, said blocks including blocks of a first size, blocks of a  
6 second size, and blocks of a third size, the method comprising:  
7 allocating a first set of tones to a first communications  
8 channel in each of the first and second sectors;  
9 allocating a second set of tones to a second communications  
10 channel in each of the first and second sectors;  
11 allocating a third set of tones to a third communications  
12 channel in each of the first and second sectors;  
13 using the first set of tones in the first sector during a first  
14 period of time to communicate information corresponding to blocks of  
15 the first size while having the tones in the first set of tones go  
16 unused in the second sector while said tones are being used to  
17 communicate information in the first sector;  
18 using the second set of tones in the first and second sectors  
19 to communicate information corresponding to blocks of the second  
20 size during a second period of time, the step of using the second  
21 set of tones during the second period of time including:  
22 transmitting information corresponding to blocks of  
23 the second size in both the first and second sectors at  
24 the same time using the same tones, the same tones being a  
25 first subset of tones in said second set of tones;  
26 transmitting information corresponding to blocks of  
27 the second size in the first sector using a second subset  
28 of tones in said second set of tones while the tones in  
29 the second subset which are used to transmit information  
30 in the first sector go unused in the second sector; and

31                   transmitting information corresponding to blocks of  
32                   the second size in the second sector using a third subset  
33                   of tones in said second set of tones while the tones in  
34                   the third subset which are used to transmit information in  
35                   the second sector go unused in the first sector; and  
36           using the third set of tones in the first and second sectors to  
37   communicate information corresponding to blocks of the third size  
38   during a third period of time, the tones in said third set of tones  
39   being used to transmit information in the first and second sectors  
40   at the same time.

1   Claim 2 (original):   The method of claim 1, wherein the second  
2   subset of tones and the third subset of tones have the same number  
3   of tones.

1   Claim 3 (currently amended):   The method of claim 1, wherein the  
2   information corresponding to blocks of the second size in the first  
3   sector includes at least one of a set of error correction bits and a  
4   set of error detection bits, at least one bit from said at least one  
5   set of bits being transmitted using a tone in the first subset of  
6   tones and at least another bit from said at least one set of bits  
7   being transmitted using a tone in the second subset of tones. —.

1   Claim 4 (original):   The method of claim 1, wherein said first,  
2   second and third periods of time are the same.

1   Claim 5 (original):   The method of claim 1, wherein the first size  
2   being smaller than the second size, and the second size being  
3   smaller than the third size.

1   Claim 6 (original):   The method of claim 5, wherein blocks of the  
2   first size are less than 10 bits in length and are used to  
3   communicate control information.

1 Claim 7 (original): The method of claim 6, wherein blocks of the  
2 first size are a single bit in length.

1 Claim 8 (original): The method of claim 6, wherein blocks of the  
2 third size are more than 20 bits in length.

1 Claim 9 (original): The method of claim 8, wherein blocks of the  
2 third size are more than 100 bits in length and wherein each block  
3 includes error correction bits which were coded over a majority of  
4 the bits in block of the third size to which the error correction  
5 bits are included.

1 Claim 10 (original): The method of claim 8, wherein said first,  
2 second and third periods of time are the same symbol transmission  
3 period of time.

1 Claim 11 (original): The method of claim 1, wherein said first,  
2 second and third periods of time are the same symbol transmission  
3 period of time, the method further comprising:  
4 allocating a fourth set of tones to said first communications  
5 channel in each of the first and second sectors;  
6 allocating a fifth set of tones to said second communications  
7 channel in each of the first and second sectors;  
8 allocating a sixth set of tones to said third communications  
9 channel in each of the first and second sectors;  
10 using the fourth set of tones in the first sector during a  
11 fourth period of time to communicate information corresponding to  
12 blocks of the first size while having the tones in the fourth set of  
13 tones go unused in the second sector while said tones are being used  
14 to communicate information in the first sector;  
15 using the fifth set of tones in the first and second sectors to  
16 communicate information corresponding to blocks of the second size  
17 during a fifth period of time, the step of using the fifth set of  
18 tones during the fifth period of time including:

19                   transmitting information corresponding to blocks of  
20                   the second size in both the first and second sectors at  
21                   the same time using the same tones, the same tones being a  
22                   first subset of tones in said fifth set of tones;  
23                   transmitting information corresponding to blocks of  
24                   the second size in the first sector using a second subset  
25                   of tones in said fifth set of tones while the tones in the  
26                   second subset of tones in said fifth set of tones which  
27                   are used to transmit information in the first sector go  
28                   unused in the second sector; and  
29                   transmitting information corresponding to blocks of  
30                   the second size in the second sector using a third subset  
31                   of tones in said fifth set of tones while the tones in the  
32                   third subset of tones in said fifth set of tones which are  
33                   used to transmit information in the second sector go  
34                   unused in the first sector; and  
35                   using the sixth set of tones in the first and second sectors to  
36                   communicate information corresponding to blocks of the third size  
37                   during a sixth period of time, the tones in said sixth set of tones  
38                   being used to transmit information in the first and second sectors  
39                   at the same time.

1   Claim 12 (original):   The method of claim 11, wherein at least one  
2   tone in said first and fourth   sets of tones is different.

1   Claim 13 (original):   The method of claim 12, wherein at least one  
2   tone in said second and fifth sets of tones is different.

1   Claim 14 (original):   The method of claim 13, wherein at least one  
2   tone in said third and sixth sets of tones is different and wherein  
3   said fourth, fifth and sixth time periods are the same symbol time,  
4   said same symbol time following said first time period.

1 Claim 15 (original): The method of claim 14, wherein allocating a  
2 first set of tones includes using a tone hopping sequence to  
3 determine the tones to be included in said first set of tones.

1 Claim 16 (original): A method of communicating blocks of  
2 information in a wireless sectorized frequency division multiplexing  
3 communications cell including a base station, a first sector and a  
4 second sector, the second sector being located adjacent said first  
5 sector, said blocks including blocks of a first size, blocks of a  
6 second size, and blocks of a third size, the method comprising:  
7 allocating a first set of tones, to be used to transmit signals  
8 in said first sector while going unused in said second sector, to a  
9 first communications channel;  
10 allocating a second set of tones, to be used to transmit  
11 signals in each of the first and second sectors, to a second  
12 communications channel;  
13 allocating a third set of tones, to be used to transmit  
14 signals in the first sector while going unused in said second  
15 sectors, to said second communications channel;  
16 allocating a fourth set of tones, to be used to transmit tones  
17 in said first sector and second sector at the same time, to a third  
18 communications channel;  
19 using the first set of tones in the first sector during a first  
20 period of time to communicate information corresponding to blocks of  
21 the first size while having the tones in the first set of tones go  
22 unused in the second sector;  
23 using the second and third sets of tones to communicate  
24 information in the first sector corresponding to blocks of the  
25 second size, during a second period of time while said second set of  
26 tones is used to transmit information corresponding to blocks of the  
27 second size in the second sector and said third set of tones goes  
28 unused in said second sector; and

29       using the fourth set of tones in the first and second sectors  
30       to communicate information corresponding to blocks of the third size  
31       at the same time during a third period of time.

1   Claim 17 (original): The method of claim 16, further comprising:  
2       allocating a fifth set of tones, to be used to transmit  
3       signals in the second sector while going unused in said first  
4       sector, to said second communications channel; and  
5       using the fifth set of tones to communicate information in the  
6       second sector corresponding to blocks of the second size, during  
7       said second period of time while said fifth set of tones goes unused  
8       in said first sector.

1   Claim 18 (original): The method of claim 17, wherein the first,  
2       second and third periods of time are the same period of time.

1   Claim 19 (original): A base station for controlling transmissions  
2       of coded blocks into a first sector and a second sector of a  
3       sectorized frequency division multiplexing communications cell, the  
4       second sector being located adjacent said first sector, said blocks  
5       including blocks of a first size, blocks of a second size, and  
6       blocks of a third size, the base station comprising:  
7       tone allocation means for allocating tones for use in each of  
8       said first and second sectors, said means for allocating tones  
9       allocating a first set of tones to a first communications channel in  
10      each of the first and second sectors, allocating a second set of  
11      tones to a second communications channel in each of the first and  
12      second sectors, and allocating a third set of tones to a third  
13      communications channel in each of the first and second sectors; and  
14      communications means for:  
15      i) using the first set of tones in the first sector during a  
16      first period of time to communicate information corresponding to  
17      blocks of the first size while having the tones in the first set of

18 tones go unused in the second sector while said tones are being used  
19 to communicate information in the first sector;

20 ii) using the second set of tones in the first and second  
21 sectors to communicate information corresponding to blocks of the  
22 second size during a second period of time, the step of using the  
23 second set of tones during the second period of time, using the  
24 second set of tones including:

25 transmitting information corresponding to blocks of  
26 the second size in both the first and second sectors at  
27 the same time using the same tones, the same tones being a  
28 first subset of tones in said second set of tones, for  
29 transmitting information corresponding to blocks of the  
30 second size in the first sector using a second subset of  
31 tones in said second set of tones while the tones in the  
32 second subset which are used to transmit information in  
33 the first sector go unused in the second sector; and  
34 transmitting information corresponding to blocks of the  
35 second size in the second sector using a third subset of  
36 tones in said second set of tones while the tones in the  
37 third subset which are used to transmit information in the  
38 second sector go unused in the first sector; and

39 iii) using the third set of tones in the first and second  
40 sectors to communicate information corresponding to blocks of the  
41 third size during a third period of time, the tones in said third  
42 set of tones being used to transmit information in the first and  
43 second sectors at the same time.

1 Claim 20 (original): The base station of claim 19, wherein said  
2 communications means includes:

3 at least one communications routine for controlling data to be  
4 transmitted;

5 a transmitter for receiving data selected by said at least one  
6 communications route to be transmitted; and

7           a sectorized antenna for transmitting blocks of said first,  
8   second and third sizes produced by said transmitter.

Claim 21 (canceled)

1   Claim 22 (original): The system of claim 19, wherein the second  
2   subset of tones and the third subset of tones have the same number  
3   of tones.

1   Claim 23 (currently amended): The system of claim 19, wherein the  
2   information corresponding to blocks of the second size in the first  
3   sector includes at least one of a set of error correction bits and a  
4   set of error detection bits, at least one bit from said at least one  
5   set of bits being transmitted using a tone in the first subset of  
6   tones and at least another bit from said at least one set of bits  
7   being transmitted using a tone in the second subset of tones.---

1   Claim 24(original): The system of claim 19, wherein said first,  
2   second and third periods of time are the same.

1   Claim 25 (original): The system of claim 19, wherein the first size  
2   is smaller than the second size, and the second size is smaller than  
3   the third size.

1   Claim 26 (original): The system of claim 24, wherein blocks of the  
2   first size are less than 10 bits in length and are used to  
3   communicate control information.

1   Claim 27 (original): The system of claim 24, wherein blocks of the  
2   first size are a single bit in length.

1   Claim 28 (original): The system of claim 26, wherein blocks of the  
2   third size are more than 20 bits in length.



1 Claim 29 (original): The system of claim 26, wherein blocks of the  
2 third size are more than 100 bits in length and wherein each block  
3 includes error correction bits which were coded over a majority of  
4 the bits in block of the third size to which the error correction  
5 bits are included.

1 Claim 30 (original): The method of claim 8, wherein said first,  
2 second and third periods of time are the same symbol transmission  
3 period of time.